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EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT	PAPER NUMBER
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1742

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/562,047	Applicant(s) ESTUR ET AL.	
	Examiner JEFFREY WOLLSCHLAGER	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-19, 21, 22, 24, 25 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19, 21, 22, 24, 25 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed October 28, 2010 has been entered. Claim 15 is currently amended. Claims 1-14, 20, 23, 26-28 and 34-37 have been canceled. Claims 15-19, 21, 22, 24, 25 and 29-33 are pending and under examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 17, 21, 22, 24, 25, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Minami et al. (US 3,709,806).

Regarding claims 15, 17, 21, 22, 24, 25 and 29-31, Minami et al. teach the claimed process of producing expanded, spherical pearls/particles (col. 3, lines 25-42) comprising extruding a polyolefin based resin, including blends with polyamide (col. 3 lines 58-67), and a decomposing chemical blowing agent (Abstract) into hot water and chopping the particle in the hot water (col. 3, lines 25-42). The hot water cools the material and the particles have a diameter of about 0.1 to 6 mm and a skin layer (col. 5, line 42-col. 6, line 45). The die plate was washed with water and immediately while still relatively hot the particles were cut with a rotary blade (col. 8, lines 34-56). In the preferred embodiment of Minami et al. "hardly" any foaming takes place at this stage. However, this still results in some foaming (i.e. hardly is not the same as none). Further, Minami et al. disclose that eliminating the use of xylene yielded an article

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that was foamed more (col. 8, lines 51-56). In that scenario, even though Minami et al. do not desire the extensive foaming, additional foaming is disclosed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15, 17, 21, 22, 24, 25, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al. (US 3,709,806) in view of either Cates et al. (US 5,284,433) or Bruckmann et al. (US 5,059,103). *Note: This is an alternative rejection of the claims based upon Minami et al. above.*

Regarding claims 15, 17, 21, 22, 24, 25 and 29-31, Minami et al. teach the claimed process of producing expanded, spherical pearls/particles (col. 3, lines 25-42) comprising extruding a polyolefin based resin and a decomposing chemical blowing agent (Abstract) into hot water and chopping the particle in the hot water (col. 3, lines 25-42). The hot water cools the material and the particles have a diameter of about 0.1 to 6 mm and a skin layer (col. 5, line

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42-col. 6, line 45). The die plate was washed with water and immediately while still relatively hot the particles were cut with a rotary blade (col. 8, lines 34-56). In the preferred embodiment of Minami et al. "hardly" any foaming takes place at this stage. However, this still results in some foaming (i.e. hardly is not the same as none). Further, Minami et al. disclose that eliminating the use of xylene yielded an article that was foamed more (col. 8, lines 51-56). In that scenario, even though Minami et al. does not want the foaming, additional foaming is disclosed. Accordingly, as set forth above, the examiner submits that the teaching of Minami et al. that the material is "immediately" cut by a "rotary blade" (col. 8, lines 42-51) teach the claimed process.

However, in the alternative, if such teaching is not understood to rise to the level of clearly articulating the claimed process and configuration, each of Cates et al. (Abstract; Figure 1; col. 1, lines 16-31; col. 3, lines 60-63; col. 5, lines 25-30) and Bruckmann et al. (Abstract; Figure 1) demonstrate how such an immediate cutting arrangement would be understood to be employed in the analogous art.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching Minami et al. and either of Cates et al. or Bruckmann et al. and to have chopped the material at the die outlet for the purpose, as suggested by Minami et al. themselves of "immediately" cutting the material with a rotary blade in an art recognized suitable manner.

Claim 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al. (US 3,709,806) alone or in view of either Cates et al. (US 5,284,433) or Bruckmann et al. (US 5,059,103), as applied to claims 15, 17, 21, 22, 24, 25, and 29-31 above, and further in view of Amano et al. (US 5,234,640).

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As to claims 16, 18 and 19, Minami et al. alone or in combination with either of Cates et al. or Bruckmann et al. teach the method of claim 15 as set forth above. Minami et al. do not teach utilizing the blowing agents of claims 16, 18 and 19 as set forth in the instant disclosure.

. However, Amano et al. teach a method of producing foamed thermoplastic materials wherein they disclose that aromatic polycarbonate is known to be a blowing agent and further suggest that a variety of equivalent alternative blowing agents such as azodicarbonamide, nitrogen, carbon dioxide, and hydrocarbons are known to be effective for producing foamed materials (col. 4, lines 11-30).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Minami et al. and to have employed other blowing agents, such as the blowing agents suggested by Amano et al., since Amano et al. suggest equivalent alternative blowing agents are known in the art to be suitable for forming a foamed product (MPEP 2144.06-2144.07).

Claim 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al. (US 3,709,806) alone or in view of either of Cates et al. (US 5,284,433) or Bruckmann et al. (US 5,059,103), as applied to claims 15, 17, 21, 22, 24, 25, and 29-31 above, and further in view of Tamai et al. (US 3,655,542).

As to claims 32 and 33, Minami et al. alone or in combination with either of Cates et al. or Bruckmann et al. teach the method of claim 15 as set forth above. Minami et al. do not teach producing a particle having the density as claimed. However, Tamai et al. teach an analogous and similar method wherein they teach that particles having further density reduction can also be made directly should such a product be desired, and that such a product can comprise polyamide (Abstract; col. 2, lines 1-29; col. 7, lines 45-73), is substantially free from surface

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pores (col. 5, lines 69-75), and suggests controlling the density of the particle over a broad range(col. 8, lines 10-25 and col. 2, lines 1-12).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Minami et al. and Tamai et al. and to have promoted further density reduction in the product of Minami et al. for the purpose of providing a particle having additional applications and that can be readily produced with minor adjustments to the process.

Response to Arguments

Applicant's arguments filed October 28, 2010 have been fully considered. Applicant's amendment to the claims has overcome the rejection based upon each of Fujie et al. and Fischer et al. Applicant's arguments directed to the rejection based upon Minami have been fully considered, but they are not persuasive. Applicant argues that Minami is not directed to a polyamide thermoplastic composition. This argument is not persuasive.

While the examiner agrees that Minami does not employ polyamide alone, as the sole polymer; it is noted that claim 15 recites a composition "comprising a thermoplastic polymer" and further recites "wherein the thermoplastic polymer is a polyamide." Minami discloses that a blend of polyolefin and polyamide thermoplastic (col. 3, lines 58-65) can be employed. In such an embodiment, the composition would "comprise" (i.e. open language which allows for the addition of other materials) a polyamide. In other words, a polyamide does not need to be employed alone to meet the claim and the thermoplastic polymer in the composition does not necessarily "consist of" polyamide. Further, it is noted that, as set forth in the rejection, Minami does realize some foaming prior to the crosslinking process and that claim 15 in view of claim

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25, for example, makes it clear that no large degree of foaming is required to be within the scope of claim 15. Further, it is noted that Minami exemplifies the impact of not utilizing xylene (e.g. a specific gravity of less than 0.7) which is also pertinent, for example, under section 102.

The examiner submits the claims would need to be further amended to overcome the rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY WOLLSCHLAGER whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 6:45 - 4:15, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Wollschlager/
Primary Examiner
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January 3, 2011